

REMARKS

I. Status of the application

Claims 3 and 20-42 are pending in the application. Claims 3 and 36-38 are withdrawn and claims 20-35 and 39-42 stand rejected.

Applicants note that only pending claim 20 was included in U.S. Publication No. 2007/0163884, published July 19, 2007. A preliminary amendment, filed July 15, 2005, cancelled claims 1, 2, 4-19 and 43-97, and identified claims 3 and 20-42 as pending. Subsequently, an Office Action issued on July 8, 2009 correctly addressing claims 3 and 20-42. Applicants additionally note that in the newly issued Office Action, the Examiner has correctly identified claims 3 and 20-42 as currently pending in the application.

II. Claims 20, 22, 29-32, 35, 39 and 40 are patentable over Hjerten et al. in view of Luner et al. and Witt

Claims 20, 22, 29-32, 35, 39 and 40 stand rejected under 35 USC § 103(a) over Hjerten et al. in view of Luner et al. and Witt. This rejection is respectfully traversed.

The references, alone or in combination, fail to disclose the invention defined by the subject claims, i.e., a method of determining the isoelectric point of charged analyte(s) by focusing the charged analyte in a flowing liquid in an electric field gradient, changing the pH of the flowing liquid at least once by an amount sufficient to shift the location of the band(s) of the charged analyte, obtaining pH and corresponding position data of the charged analyte, and determining the isoelectric point of the charged analyte based on the pH and corresponding position data.

Hjerten et al. fails to teach or suggest focusing a charged analyte in a flowing liquid in an electric field gradient. The isoelectric focusing of Hjerten et al. is not taught to be performed utilizing “flowing liquid in an electric field gradient,” as required by claim 20 of the instant application.

Hjerten et al. achieves a steady state focusing in non-moving separation medium. Pumping a solution through the tube containing the non-moving separation medium is said by Hjerten et al. to be merely an option to be used to supplement the driving force imposed by the voltage. So, fluid flow is only post-focusing and its with, not against, the voltage force. (See Hjerten et al., e.g., at col. 3, lines 23-26; compare Hjerten et al. Example 1 with Example 3.)

Luner et al. and Witt fail to cure the deficiency of Hjerten et al. Luner et al. discloses a method for isoelectric focusing that utilizes a pH gradient and an electric current. See Abstract of Luner et al.. Witt discloses a method for isoelectric focusing that utilizes a pH gradient and a high voltage. See col. 5, lines 5-37 of Witt. Each reference fails to teach or suggest an isoelectric focusing method that utilizes flowing liquid in an electric field gradient. Therefore, the references, alone or in combination, fail to disclose a method of determining the isoelectric point of a charged analyte comprising focusing a charged analyte in a flowing liquid in an electric field gradient.

Further, as the Examiner has acknowledged, Hjerten et al. fails to disclose determining an isoelectric point for a charged analyte by utilizing pH and corresponding position data of the charged analyte, at a plurality of positions, in an electric field gradient. Luner et al. and Witt fail to cure the deficiency of Hjerten et al..

Luner et al. merely discloses that the pH of the focused ampholyte may be used to determine the isoelectric point of the same ampholyte. See col. 1, lines 29-33 of Luner et al.. Witt discloses that the initial focusing point of a protein in a pH gradient may be determined based on the speed by which the protein moves from the gradient past a detector. See col. 5, lines 33-37. Each reference fails to teach or suggest determining an isoelectric point for a charged analyte by utilizing pH and corresponding position data of the charged analyte, at a plurality of positions, in an electric field gradient

Therefore, the references, alone or in combination, fail to disclose a method of determining the isoelectric point of a charged analyte comprising focusing a charged analyte in a flowing liquid in an electric field gradient, changing the pH of the flowing liquid, obtaining pH and corresponding position data of the charged analyte, and determining the isoelectric point of

the charged analyte based on the collected data. Therefore, Applicants request that the rejection be reconsidered and withdrawn.

III. Claims 23-28, 33, 34, 41 and 42 are patentable over Hjerten et al., Luner et al. and Witt and further in view of the additional citation(s)

Claims 21, 23-28, 33, 34, 41, and 42 stand rejected under 35 USC § 103(a) over Hjerten et al., Luner et al., and Witt further in view of one of Yang, Malabarba, Zhu, Ivory, and Ness. These rejections are respectfully traversed for the reasons discussed below.

In each case, the references, alone or in combination, fail to disclose the invention defined by the subject claim(s). More specifically, in each case the deficiencies of Hjerten et al., Luner et al. and Witt, as discussed above, are not cured by the additional citation. That is, even with the additional citation, the art relied upon does not teach or suggest a method of determining an isoelectric point of a charged analyte by focusing a charged analyte in a flowing liquid in an electric field gradient, changing the pH of the flowing liquid at least once by an amount sufficient to shift the location of the band of charged analyte, obtaining pH and corresponding position data of the band, and determining the isoelectric point of the charged analyte based on the pH and corresponding position data.

Each of the subject claims depends, directly or indirectly from independent claim 20. As discussed previously, Hjerten et al., Luner et al., and Witt fail to teach or suggest the method defined by independent claim 20. The various additional references fail to cure the deficiencies of Hjerten et al., Luner et al., and Witt. Yang, Malabarba, Zhu, Ivory, and Ness each fails to disclose a method of determining an isoelectric point of a charged analyte comprising focusing a charged analyte in a flowing liquid in an electric field gradient, changing the pH of the flowing liquid at least once by an amount sufficient to shift the location of the band within the electric field gradient, obtaining pH and corresponding position data of the charged analyte at a plurality of positions, and determining the isoelectric point of the charged analyte based on the pH and corresponding position data. Therefore, these references fail to cure the deficiencies of Hjerten et al., Luner et al., and Witt.

Accordingly, Applicants request reconsideration and withdrawal of the rejections.

IV. Conclusion

Applicant requests that the amendments as presented above be entered in the referenced patent application, and that the application be reconsidered. Applicant submits that all claims pending in the application are now in condition for allowance.

A petition for a two-month extension of time under 37 C.F.R. 1.136(a) and the accompanying fee are filed herewith. The Commissioner is hereby authorized to charge any such fees or credit any overpayment of fees to Deposit Account No. 19-0733.

Respectfully submitted,



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